

What is claimed is:

- 1 1. A method comprising allocating a plurality of mesh networks for data and
2 control in a heterogeneous reconfigurable device. /
- 1 2. The method of claim 1 further comprising:
2 reading a protocol file from a memory; and
3 configuring a plurality of heterogeneous processing elements;
4 wherein the protocol file includes allocation information for the plurality of
5 mesh networks.
- 1 3. The method of claim 1 wherein the plurality of mesh networks includes a
2 first plane and a second plane, and allocating comprises dedicating the first plane to
3 control and dedicating the second plane to data.
- 1 4. The method of claim 3 further comprising re-allocating the first plane to be
2 shared between data and control.
- 1 5. The method of claim 1 wherein the plurality of mesh networks includes a
2 first plane and a second plane, and allocating comprises allocating the first plane to
3 be shared between data and control.
- 1 6. The method of claim 1 wherein the plurality of mesh networks includes a
2 first plane and a second plane, and allocating comprises allocating both the first
3 plane and the second plane to be shared between data and control.
- 1 7. A method comprising: /
2 translating a design description into a configuration for a plurality of
3 heterogeneous processing elements; and

4 allocating a plurality of mesh interconnect networks between data and
5 control.

1 8. The method of claim 7 wherein allocating comprises determining whether
2 latency constraints can be met with a shared data and control mesh network.

1 9. The method of claim 7 wherein translating and allocating results in a
2 protocol file, the method further comprising storing the protocol file in a memory.

1 10. The method of claim 9 further comprising translating a second design
2 description and performing a second allocation, resulting in a second protocol file,
3 and storing the second protocol file in the memory.

1 11. An apparatus including a medium to hold machine-accessible instructions
2 that when accessed result in a machine performing: ✓
3 allocating a plurality of mesh networks for data and control in a
4 heterogeneous reconfigurable device.

1 12. The apparatus of claim 11 wherein the plurality of mesh networks includes a
2 first plane and a second plane, and allocating comprises dedicating the first plane to
3 control and dedicating the second plane to data.

1 13. The apparatus of claim 12 further comprising re-allocating the first plane to
2 be shared between data and control.

1 14. The apparatus of claim 11 wherein the plurality of mesh networks includes a
2 first plane and a second plane, and allocating comprises allocating the first plane to
3 be shared between data and control.

1 15. An apparatus comprising: ✓

2 a heterogeneous network of processing elements; and
3 first and second mesh networks coupled to the heterogeneous network of
4 processing elements, wherein the apparatus is programmable to utilize the first and
5 second mesh networks for any combination of data and control.

1 16. The apparatus of claim 15 further comprising a processor to dynamically
2 allocate the first and second mesh networks between data and control.

1 17. The apparatus of claim 15 wherein the heterogeneous network of processing
2 elements are configurable to communicate over the first and second mesh networks
3 using packets of information.

1 18. The apparatus of claim 15 wherein the heterogeneous network of processing
2 elements is configurable to utilize the first mesh network for data communication
3 and the second mesh network for control communication.

1 19. The apparatus of claim 18 wherein the heterogeneous network of processing
2 elements is configurable to utilize the first mesh network for data communication
3 and the second mesh network for both data and control communication.

1 20. The apparatus of claim 18 wherein the heterogeneous network of processing
2 elements is configurable to utilize both the first and second mesh networks for both
3 data and control communication.

1 21. An apparatus comprising: /
2 a dual mesh interconnect network; and
3 a plurality of processing elements coupled to the dual mesh interconnect
4 network, wherein the plurality of processing elements are configurable to utilize the
5 dual mesh interconnect network for any combination of data and control.

1 22. The apparatus of claim 21 further comprising a processor to configure the
2 plurality of processing elements.

1 23. The apparatus of claim 21 further comprising a plurality of routers coupled
2 between the dual mesh interconnect network and the plurality of processing
3 elements.

1 24. The apparatus of claim 21 wherein the dual mesh interconnect network
2 includes a first plane and a second plane, and the plurality of processing elements
3 are configurable to utilize the first plane for data communication and the second
4 plane for control communication.

1 25. The apparatus of claim 24 wherein the plurality of processing elements are
2 configurable to utilize the first plane for data communication and the second plane
3 for both data and control communication.

1 26. The apparatus of claim 24 wherein the plurality of processing elements are
2 configurable to utilize both the first and second planes for both data and control
3 communication.

1 27. An electronic system comprising: /
2 an antenna;
3 a radio frequency circuit to receive communications signals from the
4 antenna; and
5 a reconfigurable device coupled to the radio frequency circuit, the
6 reconfigurable device including a dual mesh interconnect network, and a plurality of
7 processing elements coupled to the dual mesh interconnect network, wherein the
8 plurality of processing elements are configurable to utilize the dual mesh
9 interconnect network for any combination of data and control.

1 28. The electronic system of claim 27 further comprising a processor to
2 configure the plurality of processing elements.

1 29. The electronic system of claim 27 wherein the dual mesh interconnect
2 network includes a first plane and a second plane, and the plurality of processing
3 elements are configurable to utilize the first plane for data communication and the
4 second plane for control communication.

1 30. The electronic system of claim 29 wherein the plurality of processing
2 elements are configurable to utilize the first plane for data communication and the
3 second plane for both data and control communication.